

A New *Profenusa* from the California Plane Tree (Hymenoptera, Tenthredinidae)

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In the fall of 1956 I received from Dr. L. R. Brown, of the University of California at Los Angeles, specimens of a small sawfly for identification. These had been reared by Mr. Clark O. Eads at Santa Barbara and Santa Monica, California, from leaf mines on the California plane tree, *Platanus racemosa*, during May and June of 1956. The information supplied with the specimens was that they had developed from larvae which lived in leaf mines superficially resembling those made by the graciariid moth *Lithocolletis felinella* (Heinrich) on the same tree. Both the moth and the sawfly make blotch mines.

Study of these sawfly specimens showed that they represented an undescribed species of the genus *Profenusa* MacGillivray, as defined by Benson (1941, Proc. Roy. Ent. Soc. London, ser. B, 10: 85-90). This genus in the Nearctic region contains the species *alumna* (MacGillivray), which mines *Betula* leaves; *canadensis* (Marlatt), mining *Crataegus* leaves; *inspirata* (MacGillivray), the host of which is unknown; and *lucifera* (Ross), also of unknown host. The host likewise is unknown for the closely related *Setabara histrionica* (MacGillivray).

Profenusa platanae, new species

This species most closely resembles *P. inspirata* (MacGillivray) in being mostly black and in having the ovipositor sheaths exerted. The two differ in that the sheaths in *inspirata* are broad and short, while they are slender and long in *platanae*, see Fig. 4. In *inspirata* (see Ross, 1936, Trans. Ill. Acad. Sci. 29: 264, Fig. 2) the lancet of the saw has the ventral margins between the apical 4 lobes minutely serrulate, while these margins are smooth in *platanae*, Fig. 1; the lobes in *inspirata* have extremely minute sub-denticles, but in *platanae* each lobe bears 4 relatively large teeth. *P. platanae* differs from *Setabara his-*

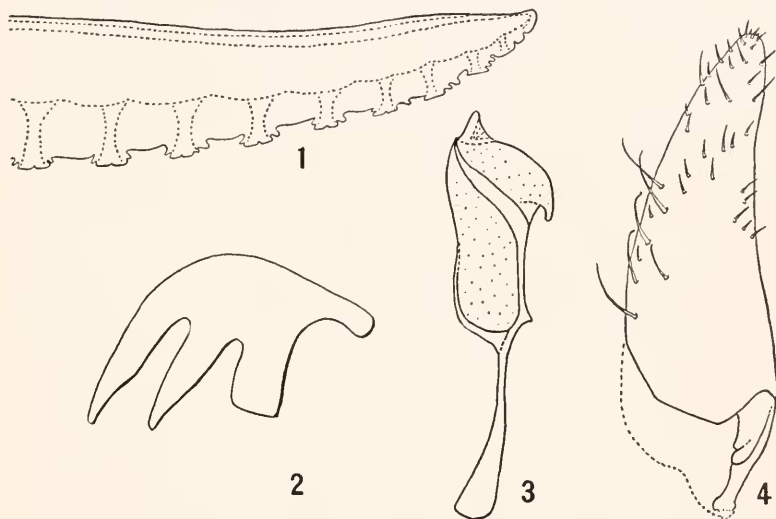
trionica (MacGillivray) in having cell R_1 of the hind wing open rather than closed; the two differ also in that *histrionica* does not have the ovipositor sheaths exerted and has the hind tibia almost completely brown. The hind tibia in *platanae* is almost entirely yellow.

Female: Length, 4.0 mm. Head and body black; antenna black, with narrow band at apex of pedicel yellow and apical segment of flagellum very dark brown; tegula mostly yellow, a small dorso-basal area black; wings hyaline with venation brown; apices of all femora, fore and middle tibiae, and all tarsi yellow, coxae and basal area of each femur black, second trochanter of each leg dark brown, hind tibia yellow with apex shaded with dark brown.

Surface of head and body smooth, shining; fronto-vertex and temples of head densely clothed with fine, golden hair; clypeus, labrum, and normally exposed portions of mandibles clothed with slightly sparser and longer golden hair; pronotum laterally setose, mesonotum glabrous, dorsal half of mesepisternum finely setose, this sclerite ventrally glabrous; all coxae apically setose, trochanters densely setose, femora sparsely setose, tibiae and tarsi very densely setose; dorsum of abdomen glabrous, venter very sparsely setose; exerted ovipositor sheaths each with 6 to 8 rather long, slightly curved setae and a few short hairs, Fig. 4.

Head with genae acarinate laterally; relative proportions of parts of antenna: Scape 33, pedicel 25, first flagellar segment 50, second 35, third 30, fourth 30, fifth 25, sixth 25, seventh 25; pedicel twice as long as wide. Forewing with crossvein 2r joining Rs basad of 3r-m, first abscissa of Rs wanting or very faintly indicated, 2r-m very short; vein M with portion between 1m-cu and 2r-m and just distad of 2r-m, and crossvein 2m-cu minutely fractured, similar minutely fractured sectors in 2r and 3r-m; vein 2A very weak near its apex, vein 3A straight, but obsolescent. Hind wing with 11 or 12 hamuli, basal ones widely spaced; cell R_1 open; anal cell present, vein 3A represented by a straight stub. Hind tarsus three-quarters as long as hind tibia; tarsal claw with a large basal lobe, Fig. 2. Lancet of saw with 4 pointed teeth on lobes, Fig. 1.

Male: Length, 3.5 mm. Color as in female except that tegula is mostly black, yellow only at apex and lateral margin; pubescence as in female. Relative proportions of parts of antenna: Scape 30, pedicel 25, first flagellar segment 50, second 30, third 30, fourth 25, fifth 25, sixth 25, seventh 25. Legs and wings as in female. Penis valve as in Fig. 3.



Profenusa platanae, n. sp. Fig. 1, saw; Fig. 2, tarsal claw; Fig. 3, penis valve; Fig. 4, ovipositor sheath.

Type locality: Santa Barbara, CALIFORNIA.

Types: U.S.N.M. No. 63460.

Described from 6 ♀ and 6 ♂ specimens, as follows: *Holotype*, *allotype*, and 2 ♀ and 4 ♂ *paratypes*, Santa Barbara Calif., May 20, 1956, reared from *Platanus racemosa*, Clark O. Eads; 3 ♀ and 1 ♂ *paratypes*, Santa Monica, Calif., June 12, 1956, reared from *Platanus racemosa*, Clark O. Eads. All specimens deposited in the U. S. National Museum collection.

Mature larva: Thorax only slightly thicker than abdomen and of the same width. Length 9.0 mm., width of head 1.1 mm.,

width of metathorax 1.9 mm., width of third abdominal segment 1.9 mm., width at anterior margin of ninth abdominal segment 1.25 mm., width at posterior margin of ninth segment 1.1 mm. Head and legs very pale brown, mandibles brown, body cream colored, dorsal and ventral thoracic shields wanting. Labrum bearing 2 bristles near either lateral margin, a pair of sublateral, arcuate rows of brown micro-denticles borne on lower, inner face of labrum, and a row of smaller, more widely set micro-bristles extending across outer ventral margin of labrum. Each mandible bearing one bristle at base. Clypeus bearing one bristle near either dorso-lateral angle. Antenna with 2 segments, basal one large and almost as broad as long, apical one minute, papilliform. A row of 6 bristles extending across fronto-vertex between the 2 ocellaræ. Surface of body obscurely shagreened, not spinulose; spiracles slit-like, not winged; thoracic legs 4-segmented; prolegs present on abdominal segments 2 to 8, and very poorly developed, lacking spines or setae; anal larvopod wanting. Abdominal tergites 2 to 8 each with 2 well-marked annulets, anterior annulet one-third as long as posterior one; posterior end of body blunt.

This is the larva that leaves the mine and drops to the ground to pupate in an earthen cell.

Penultimate larval instar: Thorax wider and thicker than abdomen. Length of body 7.5 mm., width of head 1.1 mm., width of metathorax 1.5 mm., width of third abdominal segment 1.4 mm., width at anterior margin of ninth abdominal segment 1.25 mm.

This is presumably the last larval instar that feeds.

Mine: Begun as a serpentine mine, developing into a blotch mine, the blotch mines commonly multiple and coalescent, in the leaves of *Platanus racemosa*. Excrement in young mines concentrated in the center, in mature mines tending to form bands near lateral margins.